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## Developing and Evaluating the Integration of Life and Social Sciences Teaching to First-Year Nursing Students

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### Abstract

**Title:** Evaluating the integrating of life and social sciences teaching to first-year nursing students.

**Objectives:** To evaluate an integrated teaching and learning approach to first-year nursing students, combining the life, social sciences and public health with a more integrated and clinical focused approach to teaching delivery

**Background:** Historically within the School of Nursing and Midwifery the life sciences and social sciences had been taught as separate modules with separate teaching teams. This had reflected in a somewhat dis-integrated approach to student learning and understanding without clear clinical focus on application. With focus upon student learning the teaching teams engaged with a stepped, incremental and progressive movement towards developing and delivering a more integrated structure of learning, combining the life sciences, social sciences and public health teaching and learning within the one extended first-year module. The focus was particularly on integrated understanding and clinical relevance. This paper discusses both the approach to developing the integrated model of teaching and the evaluation of that teaching.

**Results:** The module combining life, social science and Public health teaching was positively evaluated by the students. Evaluations are compared and contrasted from 2 nursing student groups of admissions.

- integrated learning
- clinical relevance
- combining life and social science teaching

### Introduction and Background

Before commencement of the academic year 2012/2013 the social sciences, public health and the biomedical sciences were taught and assessed as separate modules in the first year. This tended to reinforce the idea of separate disciplines and in the minds of certainly some of the younger students a failure to appreciate the interconnectedness (whole person) perspective on health; with separate modules taught and assessed in separate silos (a teacher centred, subject specific and specialized discipline). This became evident from earlier evaluations of the modules and impact of teaching and learning with some evidence of disproportionality in terms of delivery and impact on student nurse education.

Porter and Ryan in 1996 [1] discuss the need to 'break the boundaries' between nursing and sociology. Benbasset et al. in 2003 [2] in addressing some of the barriers to the teaching and learning of the behavioural and social sciences to medical students, suggest the importance of integrated courses and ideally begun early in the curriculum. Satterfield et al. in 2004 [3] also suggest the value of an early integration of the social and behavioural sciences within the medical curriculum to help address a more holistic approach to care and treatment. Borrell-Carrio et al. in 2004 [4] discuss the value of Engels' earlier concept of a bio-psychosocial model in promoting health and managing patients' care. Cohen in 2015 [5] argues for the importance of holistic nursing and to better achieve this students' need

to be educated holistically; significantly to reduce or eliminate disciplinary division and fragmentation in health education.

Young and Paterson in 2007 [6] and Bruce in 2007 [7] suggest that historically there was perhaps a tendency towards an over structured curriculum and categorisation; the current focus would not necessarily negate 'fixed information' but with more of an emphasis on integration better reflecting the need to prepare students for social political and clinical situations that are complex moralistic and unpredictable' (p.423). In a significant and landmark work in nurse education, Wynne et al. in 1997 [8] discussed the position of the biological sciences within pre-registration nurse education as an 'incomplete holism' and the need for teachers to 'impart biological knowledge in a manner that can be readily applied by students to inform their clinical practice' (p.470). Connie and Rowles in 2012 [9] discuss the effective use of the student centred innovation and a more collective/integrated approach to the teaching of the sciences.

Jillings in 2007 [10] and Billings and Halstead in 2012 [11] discuss some of the barriers to student centred learning which include addressing traditional silos of knowledge and expertise in a teacher led approach, rather than focusing on the impact of student learning. The Nursing and Midwifery Council in 2010 [12] Standards for Pre-registration Nursing and Midwifery Education focus the need for an integrated model of learning reflective of both the physical but also the psychosocial reality and living environment of patients and clients.

## Developing Health and Wellbeing

As a result of significant discussion and interdisciplinary negotiation, the life, social sciences public health/ health education were drawn together in the one module for the academic year 2012/13. The module seeks to provide the undergraduate students with an introduction in understanding of Life Sciences, psychology, sociology and public health and their contribution within the context of adult nursing, mental health, learning disability children's nursing and midwifery. The intention is to provide the student with a more integrated understanding and teaching to both building and sustaining health individually and to the health of the community within a social context.

The module runs in three phases across the student's first-year and teachers to nursing and midwifery students. They represent the fields of adult nursing, mental health nursing, learning disability, children's nursing and the midwifery students on the three year degree programme. Key weekly lectures are delivered in the social sciences and the Life Sciences (Hub) and developed within the structure of the tutorials and seminars (Spokes) [13,14] which is substantially matched against the topic areas delivered within the Nursing Values module for that particular phase and week. The Nursing Values module runs parallel to this module during the first year and addresses practical clinical application and nursing skills. It is then hoped that the student will not only achieve a more integrated perception of the physical and psychosocial needs of individuals and society but can more directly translate this to nursing care. The significant and predominant emphasis of the module in on health and health promotion (practical holism and the building and sustaining of homeostasis) rather than the management of disease and disability. The tutorial or seminar topic is addressed in the week following the lecture in order that the student can better collect material and research the topic areas. Teaching is delivered by face to face lectures and by online e-learning resources including an e-virtual community reflecting aspects of social life within N. Ireland. Whilst subject specialists deliver the lectures, the tutorials and seminars are delivered by all lecturers, with the need at least initially to prepare themselves within their non-specialist areas and revise life sciences, social sciences or public health theory as appropriate in order to ensure appropriate depth of knowledge and understanding reflected in teaching delivery. The development of both a more integrated model of teaching and learning, but also one with a more developed (and on-going development) focus on clinical work, was significantly helped by having colleagues who were also still engaged in practice (joint lecturing and clinical appointments) involved in the development planning and delivery of teaching to the integrated module.

### Phase I

This provides a broad introduction to the subject areas and the initial grounding in theory. The subject areas include tissues, cells, homeostasis, and overview of the cardiovascular system, the renal system and fluid homeostasis and the immune system and immune resistance. In addition to a broad introduction to the disciplines of psychology and sociology the students are introduced to be theory of attitude development and approaches to attitude and behavioural change. They also explore power relationships particularly within the patient client situation and the characteristics off and approaches to care delivery contrasting compliant models of nursing care with more cooperative and empowering approaches to care. Mapping against (mirroring/reflecting in parallel) the physiology of the immune system

the students are introduced to the psychology of stress, homeostasis and psychoneuroimmunology. The Assessment comprises a group project involving the development of and presentation to a health-promoting poster addressing both life and social sciences with a particular public health/health education focus. The group work provides an opportunity for the students in developing team working skills; research; research presentation and teaching delivery. The group work is summatively assessed.

### Phase II

The teaching programme focuses more within a case study delivery. By phase 2 of the students should have completed at least one substantial clinical placement. Within this phase the nervous system, respiratory system, musculoskeletal system and an introduction to pharmacology are addressed within the Life Sciences. Mapping against that and with an introduction to public health principles the particular example of smoking cessation is explored together with some of the theories and models of health related behaviour. Other examples include the exploration of power differentials within medicine and health consultation, addiction and substance misuse, patterns of disordered eating, inequalities in health and homelessness and the students are introduced to Health Care in the Community. The Assessment comprises a class test which consist of multiple choice questions single answer questions or true/false questions. This comprehensively addresses all subject areas from phase 1 and phase 2 of the module.

### Phase III

With at least two placements by then completed the students in this phase further develop the practical application of the life, social sciences and public health with particular focus on maintaining homeostasis in addition to exploring the biology of pain, the endocrine system and the physiology of human reproduction. This again is mirrored within the social sciences and reflecting the approach to death and dying and palliative care delivered within the Nursing Values module, the social science dimension of the module explores death and dying from a psycho-social perspective. In addition this phase of the module introduces the students by way of the key lecture to the historical experience of trauma and civil war within Northern Ireland 'the Troubles', from a health professional's perspective. This is then developed within tutorials which are substantially led by the victims of the Northern Ireland Troubles although overseen by the model teaching team. The Assessment at the end of this phase is in two parts. (1) A written short answer questions examination addressing both life and social science issues within phase III of the module. Questions are delivered in two related sections addressing (a) particular systems of the body (for example, the respiratory system), its description, structure and function and (b) the related and public health approaches to health maintenance and health promotion. (2) A 2000 word formal essay on a particular question which requires the students to address the life sciences, social sciences, public health and health education dimensions of the question within a clinical context. It also encourages the students to reflect theory against case study examples drawn from their practical experience to date. Again the focus is on health maintenance and health promotion.

## Evaluation of the Module and Learning Experience

The module and learning experience was evaluated in two phases. The first phase involved evaluation by first year adult nursing students

from the student intake February 2014. The total student intake for that phase was 80 students all to the adult field (N=68). The second phase of evaluation involved adult nursing students from the student intake September 2014 (n=66).

## Data collection

The student's evaluation was investigated by means of a questionnaire and comprised of a number of multiple choice questions using a five point Likert type scale. There was no evident pre-existing scaled questionnaire for this form of evaluation. The questionnaire was therefore developed from an exploration of the literature, discussion with students and with lecturing colleagues. The questionnaire was reviewed and examined by several experienced teachers including fellow Lecturers, Information Technology experts and an Education Technologist who had all been briefed on the study. The questionnaire was first piloted with any earlier cohort of students.

In order to facilitate larger groups, to ensure confidentiality, ease of collation of data and to keep the time needed to complete to a minimum the Personal Response System (PRS) was used to facilitate the data collection.

## Ethical considerations

Students were informed verbally at the start of the module review what the purpose of the evaluation was and that participation was entirely voluntarily and there would be no repercussions if they chose not to, nor personal benefit gained if they did and that responses would be completely anonymous.

## Results of Evaluation

**February 2014:** 77% of the students found the module stimulating and challenging (39% Good; 38% Very good). 62% of the students rated the module as Good and 26% as Excellent. By way of example and exploring particular aspects of the module, 785 of the students agreed or strongly agreed that the teaching on victims and survivors within the context of 'the troubles' was useful with 82% agreeing or strongly agreeing that the teaching would equip them for dealing with issues regarding victims and survivors that arise within nursing practice.

**Sept 2014:** 93% of the students suggested that the module's aims and objectives were well met (with 37% recording an excellent score against these criteria). Again some 93% of the students felt that the module was well or excellently organised. 90% of the students also found the module stimulating and challenging (47% Good and 43% as Excellent) overall the module received ratings of 52% Good and 40% Excellent (92%). 7% rated the module as Acceptable and only 1% as Poor. The teaching to victims and survivors of the troubles again seems to have made the students more aware of its relevance to them as health care professionals.

**Examples of the questionnaire evaluations are contained in the Appendix (Figure 1,2):** As these were only first year students it was not considered entirely appropriate to enquire of the practical application of teaching and learning to their clinical experience as they had only by then engaged with three placements. However, informal discussion with the students, suggested significant acknowledgement of the practical application of theory to clinical experience.

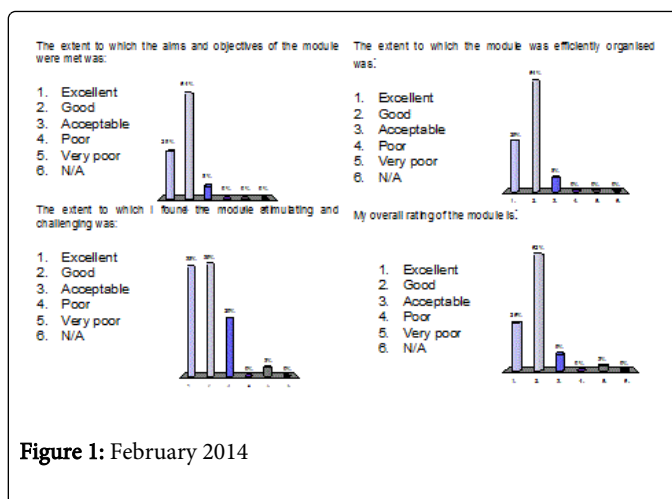


Figure 1: February 2014

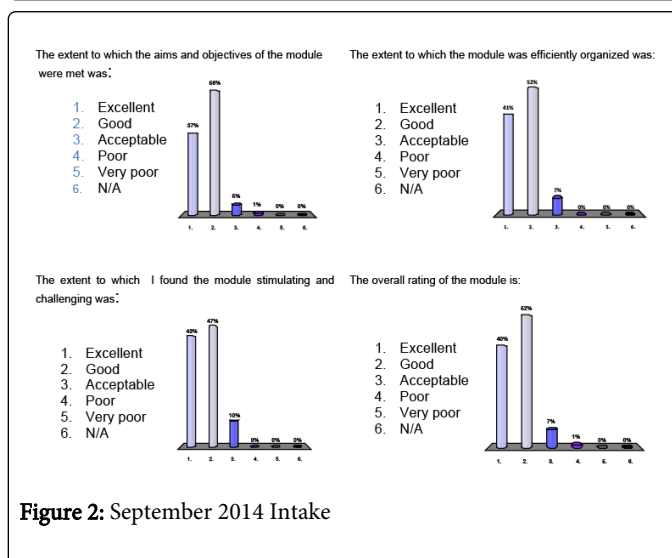


Figure 2: September 2014 Intake

## Limitations

This evaluation did not comprise a detailed and constituted study. Substantially to engage the students only a short questionnaire was used, and this could contribute to the limitations of the evaluation. This was a single centred study based in one Higher Education Institution in the United Kingdom. The results also need to be taken cautiously as they examine in some instances perceived effect, it is difficult to assess as yet actual positive effects.

## Discussion and Conclusions

This approach to audit and evaluation has helped to guide the development of the module and a more integrated approach to teaching and learning.

There were difficulties experienced both in developing and combining the life and social sciences and in developing a teaching module that could effect such combination in relation to practice. There was need for effort and goodwill on the part of the existing teaching teams in drawing together the life and social sciences with clear focus on what was in the best interests of facilitating learning to students. The focus was on what could best/better integrate the clinical

learning experience for first year students [15]; Wynne et al. in 1997 [8]; Bruce in 2007 [7]. This has involved a stepped/incremental approach with detailed reflection on delivery and evaluation from September 2012 when this innovative combination of teaching for the school was first delivered. Whilst this did not amount to a detailed study of the impact and effect of teaching, this approach to audit and evaluation is of some teaching and potentially clinical value.

By 2014 both intakes of students would seem to have evaluated the module as effective and engaging and this was perhaps even more marked with larger number of students and the combined nursing fields and midwifery students in the September 2014 intake. Significantly, whilst 77% of the smaller group of adult field only students in the February 2014 intake evaluated the module as stimulating and challenging (good/excellent). This figure reflected in 88% for the later and larger September 2014 intake. Although overall ratings for the module for both groups were not dissimilar (88% February 2014 and 92% September 2014) some 26% of the February 2014 rated the module overall as excellent, but by way of significant contrast, some 40% of the September 2014 intake rated the module as excellent. It is not entirely clear why there is some degree of notable difference here but again after each module delivery and module evaluation, incremental changes in teaching delivery are made.

Traditionally within the school the life and social sciences had been taught as separate modules. This seemed to separate both the teaching teams and streams of teaching, but also the learning experience for the students [8,13]. Certainly in combining life and social sciences a number of the lecturers had to recover and develop their depth of knowledge and currency in respect of one or other field of science. However, student evaluations do suggest some degree of significant impact and efficacy in this combined approach- relative to earlier module evaluations, when the subject areas were taught as separate modules. Possibly of a particular relevance was the focus on health and the whole person and although phase 1 of the module was perhaps more grounded in theory phase 2 and phase 3 work was increasingly applied to clinical and case study examples drawn to help the students develop an integrated approach to life ,social sciences and practice. Currently module coordinators are involved with student representatives in remodelling aspects of the module teaching delivery for the coming academic year 2015/2016 together with service user and carer representatives to better reflect and facilitate learning and clinical care needs.

## Conflict of Interests

None of the authors have any financial interest in or personal relationship with those involved in the research. The authors are not aware of any conflict of interests.

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